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MEMOIR OF THE LATE JOHN HANCOCK, OF NEWCASTLE-ON-TYNE.

A TRAIN of old memories is awakened by the lamented death of John Hancock, which took place at Newcastle on October 11th, in the eighty-fourth year of his age. To have known a man who had conversed with Bewick, who was a contemporary of Selby, Yarrell, St. John, and Hewitson, and who with his brother, Albany Hancock, and his friends Joshua Alder, George Johnstone, of Berwick-on-Tweed, and Robert Embleton, helped to found in 1846 the "Tyneside Naturalists' Field Club," was indeed a privilege; and by his death one of the last links of the chain which bound us to those well-known pioneers of British Zoology has come to be severed.

He was the third son of Mr. John Hancock, saddler and iron-monger at the Bridge End, Newcastle, and was born there in the house above the shop about 1806. His father was a man of cultivated tastes, an ardent student of Natural History, and formed a good library and collections in the departments of study to which he devoted himself. He died at the early age of forty-three in 1812, leaving a widow and six children, of whom the eldest was only eight years of age. In process of time her eldest son Thomas and her third son John entered into the business at the Bridge End, and for many years it was carried on under the style of T. and J. Hancock. The younger brother devoted himself especially to the study of Ornithology and Entomology, and, with the co-operation of several of the friends

above named, the Natural History of the district was carefully explored.*

At this time there lived in Newcastle Mr. R. B. Wingate, a good ornithologist and professional birdstuffer, who was also the friend of Thomas Bewick (the celebrated wood engraver). With Wingate Hancock was intimately acquainted, and often visited him, saying "he was the first man in England who ever stuffed a bird like life." It might perhaps be said his acquaintance with Wingate had some influence on his own career, for in 1826 or 1827 he turned his attention to birdstuffing, an art in which he soon learnt to excel.

In 1851, at the Great Exhibition in London, Mr. Hancock exhibited a series of groups illustrative of falconry. They are now in the Newcastle Museum, and form part of the collection he presented to the Natural History Society. Of these groups it has been said that they were "vitalised by the feeling not of the mere birdstuffer, but of the poet, who had sympathised with Nature, felt the life of birds as sometimes kindred with his own, and, inspired with this sympathy and labouring to utter it, had thus re-created life, as it were, within the grasp of death." He was one of the closest and most careful observers of bird-life in this country, and his opinions were held in the highest esteem by all ornithologists.

He was not a great writer, and his printed contributions to zoological literature were principally short papers communicated to the Natural History Transactions of Northumberland and Durham, and of the Tyneside Naturalists' Field Club. In the 1847 edition of Bewick's 'British Birds' he drew up the synopsis, and revised the nomenclature of the entire work. In 1853 he published a series of lithographic plates, drawn on the stone by himself, illustrating the groups of birds shown by him at the Great Exhibition in 1851. In 1874 he published in the Natural History Transactions above referred to a "Catalogue of the Birds of Northumberland and Durham," illustrated by fourteen plates lithographed from his own drawings. In the Introduction to this Catalogue he gives a most interesting account of some of the great centres of bird-life in the two counties,

* For these details of his early life we are indebted to his friend Mr. Wright, for many years Curator of the Newcastle Museum.

since destroyed, and his record of a day's work on Prestwick Car (p. xii) will make many an ornithologist sigh for the days that are no more. His discovery of the nest and eggs of the Wood Sandpiper, *Totanus glareola*, on this piece of wild moorland in June, 1853, was an event of great interest to naturalists, and his record of the capture of no less than eighty-two specimens of the Waxwing, *Bombycilla garrula*, in different parts of Northumberland during the autumn and winter of 1866—67, shows the close attention which he paid to the occurrence of rare birds in his own county.* Nor should we omit to mention his account of the breeding of the Tufted Duck, *Fuligula cristata*, in Northumberland (Trans. Tyneside Nat. Field Club, vol. v. (1860—62), pp. 39—41), and his report of the occurrence for the first time in Great Britain of the Rufous-naped Nightjar, *Caprimulgus ruficollis* ('Ibis,' 1862, pp. 39—40), and of the Spotted Eagle, *Aquila navia*, at Cresswell, on the Northumberland coast (Nat. Hist. Trans. Northumb. vol. viii. p. 217).

Charles St. John thought that the Pink-footed Goose, *Anser brachyrhynchus*, used to breed on one of the Sutherlandshire lochs, but, on Hancock accompanying him there to settle the point, it was found that the birds in question were all "Grey-lags," *Anser ferus*.

In conjunction with his brother Albany, he contemplated publishing a work on the British Birds, with plates, in quarto, but this was never carried out, although he had prepared some of the drawings. He was a member of the Literary and Philosophical Society, and for some years a member of the committee. He was one of the original members of the Tyneside Naturalists' Field Club, a member of the Natural History Society of Northumberland and Durham, and one of its vice-presidents. The interest he took in its affairs is shown by the energy and enthusiasm he devoted to the building of the new Museum, and the munificent liberality in presenting to it his unrivalled collections.

The old Museum in Westgate Street had long become too small and cramped for the collections of the Natural History Society, and the project of a new building in a more suitable locality originated with John Hancock. With enthusiastic

* Nat. Hist. Trans. Northumb. & Durh. 1867, p. 281.

energy he set himself to carry it out. By his personal influence and the liberality of his personal friends he was enabled to see the new building begun in 1880. In 1881 he presented his entire collection of British birds to the Museum, and in August, 1884, he had the satisfaction of seeing the new Museum opened by the Prince and Princess of Wales, in the presence of a brilliant assemblage, and had the pleasure of receiving their warm congratulations on the success of his labours.

Twenty-seven years, alas! have passed away since we first saw John Hancock, and commenced an acquaintance and a correspondence which will ever be remembered with pleasure. In the month of May, 1863, a month which will always be memorable from the impressions then received of Tyneside and Coquetdale scenery, of Chillingham Castle, a visit to the Farne Islands with Robert Embleton, of Beadnell, and last, but not least, a visit to Selby's famous collection of birds preserved at Twizell House, near Belford, we left the north country moors, and the coast by North Sunderland and Dunstanburgh Castle, to spend a few days in the busy, smoky town of Newcastle-upon-Tyne. Strolling up to St. Mary's Terrace, we knocked at the door of No. 4, where Hancock resided, and surprised him, characteristically, in the act of skinning a Sand Grouse!

It will be remembered that 1863 was the year of the first great visitation of this remarkable bird to the British Islands, and more than a score had been killed in different parts of the Tyneside district. Three were shot out of a flock of twelve or fourteen near Thropton, on the Coquet, on May 21st, and two of these were in process of being preserved by Hancock at the time of our visit on May 23rd.* Our meeting was a very cordial one, for we had many mutual friends in the north country, and although first visits are usually brief and formal, we found so much to talk about, that the interview which commenced at ten o'clock in the morning was only terminated at 6 p.m. by the recollection of a dinner-engagement at Benwell, where in an hour's time we were destined to meet again. Several hours that day had been devoted to an inspection of the Museum, then at the old house in Westgate Street, and we shall never forget the animation with which Hancock discussed the question of the races of Northern

* See Trans. Tyneside Nat. Field Club, vol. vi. (1863—64,) pp. 100—103.

Jerfalcons, illustrating his instructive remarks by the production of specimens which he handled as tenderly as if they had been delicate flowers.* Hybrid Grouse, Ducks, Seafowl from the Northumberland shores and islands, and the eggs of many of them collected by himself in Scotland and Norway, were all examined and admired in turn; while we inspected with a kind of reverential awe some of the very specimens which had been handled by Bewick, and engraved by him for his inimitable work on British birds. The examples of Hancock's own skill as a taxidermist were particularly striking, from their marked departure from conventional types, and from his successful attempt to represent birds in action. Some of his groups of birds in the Museum at Newcastle-on-Tyne, and others which we have since seen at Exeter and Bath, have in our opinion for their life-like appearance never been excelled. But this, of course, amongst ornithologists is a matter of notoriety. His drawings were not so good. The illustrations to his 'Catalogue of the Birds of Northumberland and Durham,' published in 1874, coming as they do from his own hand, are very disappointing, some of them being stiff and unnatural in their pose, quite unlike the skilfully-stuffed specimens in the Museum. The best of these drawings is that of *Alca impennis*, the Great Auk, from an adult bird in summer plumage purchased on the Continent by Hancock in 1844, and since presented by him to the Newcastle Museum. It is remarkable for having been most successfully re-stuffed and re-modelled by Hancock, who extracted all the bones which had been left in the skin originally, and which are now exhibited side by side with it. The mention of this interesting bird, of which another and immature specimen is preserved in the Newcastle Museum, reminds us of Hancock's skill in modelling.

On the occasion of our visit he opened a drawer in his egg-cabinet in which were, to all appearance, a dozen eggs of the Great Auk! Noticing our start of astonishment, he exclaimed, "Don't be surprised, only one of those is genuine; which is it?" We were unable to say; so closely had he imitated eleven genuine eggs which had been lent him for the purpose by various owners.

* His views on the different species or races of Jerfalcon will be found stated in Brit. Assoc. Reports, 1838, pt. ii., p. 106; Ann. Nat. Hist. 1839, pp. 241—250, and 1854, pp. 110—112.

They were made of plaster of Paris, of the exact size and shape of the originals, hollow, of the right thickness, and with holes at the ends, as if they had been blown. The markings, too, were skilfully imitated. So perfect, indeed, was the imitation, that when Hancock returned to its owner a genuine egg which he had borrowed for modelling, together with a copy of it as a return for the loan, the recipient was unable to decide which was the original, and wrote to Hancock begging him to come and resolve his doubts. The anecdote of his living Greenland Falcon, which, sitting hooded on the perch in his room, was mistaken by a visitor for a stuffed bird, and thought by him to be a little stiff in its pose, is told with gusto in his 'Catalogue' above referred to.

It is to be regretted that he has not left in print more of his personal reminiscences, and other observations; to hear him discourse of his birdsnesting with Hewitson in Norway, and of his rambles with Charles St. John in Sutherland, made one long for the retentive memory of a Boswell to rescue from oblivion such delightful narratives.

He had no great taste, as we have said, for writing. Even when engaged upon his 'Catalogue' of north-country birds, when the opportunity occurred for saying much that he could say about some of the rarer species with which he was familiar, from observation of them in their proper haunts, he contented himself with a few brief remarks—much too brief to satisfy those who knew what knowledge he possessed, could he only have been induced to communicate it.

With a view of attaining an accurate acquaintance with the form and habits of Falcons, he trained nearly all the British species (Cat. B. Northumb. p. 12). including one or two Greenlanders and Icelanders which he got from the late Duke of Leeds, and through some of the local ship-owners. There is a tradition amongst falconers that he once killed a young Blackcock with an eyess Falcon, a feat which we have since seen accomplished in Hancock's own county by a Falcon belonging to Major Hawkins Fisher.

His friendship with Hewitson, the author of the well-known work on 'British Birds' Eggs,' occasionally brought him south on a visit to his friend at Oatlands, near Weybridge, where, in 1848, Hewitson had purchased some land and built himself a house. On these occasions we seldom missed an opportunity of

seeing him,—“on migration,” as he said,—and of renewing an acquaintance which would have been greater but for the distance which usually separated us. In this charming retreat at Oatlands, where Hewitson lived and worked for thirty years, he spent many a pleasant week, and, surviving his friend, who died in 1878, lived to inherit the property which was bequeathed to him, and which he maintained until his own death. It was here, in the summer of 1884, that he personally observed a young Cuckoo ejecting the young of its foster parent, the Hedgesparrow, of which he has written an interesting account in ‘The Zoologist’ for 1886 (pp. 203—207).

But, in spite of the charms of this south country home, he could never separate himself long from his native town, where the whole interest of his life was really centred. He had always at heart the completion and improvement of the Museum at Newcastle, and kept up his house in St. Mary’s Terrace as a *pied à terre* from which to superintend the additions which were constantly being made under his direction.

Some three years ago he had an attack of paralysis, which at his time of life left him in an enfeebled state. From this attack he never really rallied, and on October 11th last, after a few weeks of serious illness, he passed quietly away, to the great regret of all who knew him.

The portrait which accompanies this memoir is from a photograph by Mr. John Worsnop, of Bridge Street, Rothbury, Northumberland, for the use of which we are indebted to the Editor of ‘The Graphic,’ in which journal it was published on the 25th October last.

THE BOOTH MUSEUM AT BRIGHTON.

IN ‘The Zoologist’ for March last (pp. 92—96) we published a memoir of the late Mr. E. T. Booth, of Brighton, whose beautiful collection of British birds has, since 1876, been one of the chief attractions to naturalists visiting Brighton, although the Aquarium, from its greater accessibility, has doubtless always commanded a large share of public notice.

In the memoir referred to, after describing the Museum building, and the nature of its contents, we announced that in pursuance of directions given in his will, Mr. Booth’s executors

had offered the entire collection to the Trustees of the British Museum, on the condition that it was not to be amalgamated with the general collection of mounted birds there, but kept distinct as the "Booth Collection," and we expressed a hope that this offer would be accepted.

We were not then informed of the fact that the collection was intended by the testator to be kept intact at Brighton—not in London, as we had been given to understand.

This restriction placed so much difficulty in the way of accepting the gift that, after due consideration, the Trustees of the British Museum felt obliged reluctantly to decline it. In pursuance of Mr. Booth's wishes, the Museum building and its contents were then offered to the Corporation of Brighton, who accepted it, and the 3rd November last was fixed for the ceremony of a formal delivery of the gift by the executors.

On that day, accordingly, a numerous company of residents and visitors at Brighton assembled in the Museum building in the Dyke Road, where they were received by the Mayor, Mr. Mainwaring (who wore his robes and chain of office), and the Town Clerk, Mr. Tillstone. Mr. George Brodrick, as solicitor to Mrs. Booth, having formally presented the keys of the building to the Mayor, the latter, addressing the meeting, said that they were met to do honour to their deceased friend, Mr. Booth, and at the same time to receive the valuable gift which he had left to the town. They saw before them the work of a lifetime, a collection unique of its kind, and he trusted that it might be the commencement for the town of Brighton of such a Natural History Museum as the world had not yet seen. He was quite sure that when they looked carefully at the contents of the many cases, they would be perfectly satisfied that though they might be equalled, they could never be surpassed. This Museum would be of very great advantage to the town of Brighton. Not only would it add to her attractions, and afford another place in which people could amuse themselves for hours, but it would form an institution where Natural History could be learnt, and where artists, particularly, could study the forms of British birds. He was grateful to the Trustees of the British Museum for having declined the offer first made to them, and glad to see present amongst them on that day their representative in the person of Professor Flower, the Director of the Natural

History Museum in London, who, he hoped, would address the meeting.

Being thus called upon to speak, Prof. Flower said they were assembled in a room that contained a collection in many respects unequalled by any other in the world. In the first place, it had been entirely the work of one man in a life of no great length,—he had only reached the age of fifty when he died,—but who devoted an extraordinary amount of energy and perseverance, and also expended a very considerable amount of money, in making it as perfect as possible of its kind. They must not suppose for a moment that Mr. Booth was the only man who ever made a collection of British birds. Birds had always been favourites, and the birds of our own islands, though far less remarkable for form, size, and brilliancy of plumage than those of other lands, had for many reasons been peculiarly attractive. The national pride which causes us to love our countrymen better than foreigners includes birds as well as other bipeds. It had, therefore, been the aim of many public museums, as well as private lovers of natural history, to make as complete a collection of British birds as possible. But it was one thing to have a collection adapted and conveniently arranged for reference and study by the learned ornithologist, or consisting of as many specimens as could be crammed into the smallest space they could occupy, without regard to their condition or their order, and quite another thing to have a collection under such circumstances and so arranged as to convey the fullest possible amount of information and instruction, and to excite the greatest possible interest in the minds of those who, like the majority of us, were not in a position to devote any large portion of our scanty leisure to their study. For this latter purpose he had no hesitation in saying it would be difficult to imagine a collection so complete, and so admirably arranged and displayed, as the one in which they were. He purposely avoided comparison with the beautiful series, showing the nesting habits of birds, now being arranged in the National Museum in London under the supervision of Dr. Günther, because the objects of the two were in many respects different, as were also the methods in which they were carried out. They must recollect that the collection was formed by one who was an intense lover of bird-life, one who spent the greater part of his own life, night and day, summer and

winter, in watching their manners and actions in their native haunts, and who knew from his own keen observation exactly what were their favourite surroundings, what kind of soil or of rock, or of tree or of flower each species would be most likely found among or near. Most collections contained only the birds themselves. Here we had not only birds, but the home in which the birds dwelt, most carefully and accurately reproduced, and on such a scale and in such a manner as had never been done anywhere before. As for the birds themselves, not only were they the finest and best specimens of their kind that could be procured, and in many cases showing various stages of plumage, at different ages and different seasons of the year, but far more care, knowledge, and artistic skill had been expended on their mounting than was generally the case either in museums or in private collections. The art of taxidermy, though quite an old one in Europe, extending back certainly three or four hundred years, had made very little progress until very recent times, and even now, though there was so great a development of nearly all branches of art, it had had far too little attention bestowed upon it. Very few people seemed to know the difference between a really well-mounted bird or mammal and an inferior one, but there was as much difference between them as between a picture of a lion by Landseer or Rosa Bonheur and a picture of the same animal depicted by a village artist on the sign of a public-house. And yet so little did people understand this, that they went on filling museums and collections with wretched examples, and continued to pay the unfortunate bird-stuffer a miserably inadequate sum for work which should be the work of a real artist, and which could only be done by a man who not only had devoted great care and attention to the subject, but had also the rare gift of inborn genius. He was very critical, indeed, as they could see, on the subject of bird-stuffing, and he was happy to be able to say, and every time he entered that museum it struck him more, that the greater number of specimens in it, though, of course, they were unequal, were most admirable specimens of the art of taxidermy. Many of them were very fine indeed, all were above the average, and he believed there was not a single bad one among them. The collection was eminently adapted for public instruction. If the advantages to be derived from it were only the momentary pleasure of looking

at it here, it would be of comparatively little account, but if properly used, it might be the means of spreading knowledge and interest which would affect the whole course of some of their lives. They had all cares and troubles enough in their passage through this world, and they were so often brought in contact with so much that was mean, disagreeable, and ugly, that they ought not, for their own sakes, as well as for the sakes of those among whom they lived, to neglect any sources of joy and gladness that might be offered to them. The man who walks through life with his eyes open to beauty, wherever it could be found, was by so much a happier and a more useful man than one whose eyes were closed to it. The observation of bird-life was one among many of unfailing sources of pleasure. They could not walk upon their downs, or along their cliffs, or on their sands, with their eyes open without seeing birds innumerable, though he believed that many never did see them. That museum, however, should teach them to see these, to know them one from another, to make them their friends and companions, and, rightly used, it might be a source of making many lives happier, and sweeter, and purer than they otherwise would be. For such a collection as that ever to be dispersed or destroyed would be a national misfortune. The Mayor had alluded to the fact that it was offered to the British Museum, and if he had had any idea then that, if they did not accept it, it would be destroyed or dispersed, he should have felt it his duty to advise the Trustees to take it over. He received, however, intimation at the time of the fact that the Corporation were not only willing, but most anxious to take charge of the collection, and maintain it. Although it would have been a great privilege to him to have been its official guardian, he rejoiced to think it was going to remain in Brighton, and that they had expressed their determination to maintain it for the benefit of their fellow-townsmen and for visitors. The great central national collections were the fitting repositories of many specimens of natural objects, and works of art. Such as are unique, and such as are necessary for the researches of advanced students who require facilities for their investigations, which can only be obtained by the direct comparison of a large series of specimens one with another, ought to be in them. But, on the other hand, the more collections like that—adapted for general instruction—were to be met with in other great centres of

population, the better it would be for the welfare of the country generally. Apart from the fact that the collection was made at Brighton, and a large number of the birds obtained in the immediate neighbourhood, Brighton seemed to be a particularly suitable place for preserving a museum like this. They had a vast number of visitors, who come for the purpose of seeking repose or health, for whom such a light, interesting, and easy occupation as is afforded by learning what that museum could teach, ought to be the best that can be found. It only needed to be better known, and, if possible, without disturbing its arrangement and order, to be placed in a more convenient and central situation to be very much more widely appreciated than it had been hitherto. In conclusion, he said he was sure that he was expressing the feelings of friends around him who were interested in the advancement of the Natural History sciences, and of many more who were unable on account of other engagements to be present, in thanking the Mayor and Corporation for asking them to come to this interesting meeting, and in congratulating them on possessing such a valuable addition to the many attractions of the town.

The Mayor having announced that the Museum would, for the present, be carried on in the same way as hitherto, and that it would be looked after by the Museum Committee under the chairmanship of Mr. Crane, one of the most enthusiastic of their fellow-townsmen who were naturalists, the formal proceedings terminated.

In the evening a banquet, presided over by the Mayor, was given at the Royal Pavilion, Brighton, to which about eighty guests sat down, including Aldermen Sendall, Cox, Brigden, Soper (the Mayor elect), Abbey, Davey, Ewart, Hawkes, Martin, Reeves, and Wood; Councillors Booth, Colbatch, Clark, Daniel, and Tester; Mr. H. Willett, Mr. Crane, and most of the clergy of Brighton and the neighbourhood. The visitors also included several well-known naturalists, among whom were invited Prof. Flower, C.B., F.R.S., Director of the Natural History Museum, Dr. A. Günther, F.R.S., Mr. R. B. Sharpe, Mr. Henry Seebohm, Count Salvadori, Mr. W. Borrer, Mr. T. J. Monk, and Mr. J. E. Harting, though some of them were unavoidably prevented from taking part in the proceedings.

In conclusion, it may be stated that a detailed description of the Booth Museum and its contents, by the Editor of this journal, was published in 'The Field' of the 16th Sept. 1876, when the Museum was first thrown open to the public.

NOTES AND QUERIES.

MAMMALIA.

Alleged antipathy of Cattle to Deer.—In the Report on the Chillingham cattle, read at the meeting of the British Association in 1887 (Zool. 1887, p. 405), is the following statement, which is surely an error:—"The cattle live on good terms with the Red-deer, but they will not tolerate Fallow-deer or Sheep in the park." On the 13th September last, when at Chillingham, I watched a small party of Fallow-deer for some time, as they fed on the hill-side with five of the white cattle; and the keeper, Michie, assured me that both Red- and Fallow-deer live in perfect harmony with them, and, if in any way alarmed or disturbed, generally seek safety in their company.—CHAS. OLDHAM (Ashton-on-Mersey).

[In Mr. Assheton Smith's park at Vaynol, near Bangor, where we have just spent three weeks, white cattle and Red- and Fallow-deer roam together, and no such hostility as that above referred to has ever been noticed.—ED.]

English Deer Parks.—I feel that your readers will be interested to learn that I am getting on fairly well with my projected book on this subject; but several owners of parks, who have had my circular sent to them to fill up, have not as yet returned it. May I venture to ask them, through the medium of 'The Zoologist,' to be good enough to do so as soon as possible? If the papers are returned quickly, I think the book might be out in the spring; but of course I have to rely entirely on the kindness of the owners of parks.—J. WHITAKER (Rainworth, Notts).

Hedgehog v. Rat.—A friend residing in the North of Ireland wrote to inform me that her garden was over-run by Rats, and that her gardener assured her that if she could procure and turn down some Hedgehogs in the said garden the Rats would disappear. I accordingly sent her two or three of our native Hedgehogs, and in reply to my enquiries concerning the success of the experiment, lately received a letter from the lady above referred to, of which letter I copy the last sentences:—"As far as I can remember, the Hedgehogs were introduced into this garden in March last, and remained alive for six months. In about a fortnight from the time that they were put in, I had nothing eaten by Rats, and, in fact, never saw one. The garden is about two acres and a half in extent. The

Hedgehogs either died or were killed by terriers, but certainly as soon as the precious animals disappeared, sure enough the vermin appeared again." My friend asks for another consignment of Hedgehogs, which I hope to despatch shortly, on the condition that at least they shall not be destroyed by dogs. I should be very glad if any of your readers can give me any information, from their own experience, on the subject of Hedgehog *v.* Rat.
—LILFORD (Lilford Hall, Oundle).

Wild Cat in Shetland.—Mr. James G. Laurenson, merchant, Lerwick, while shooting Rabbits, on Tuesday, October 7th, had rather a strange adventure with a Wild Cat. He went down the cliff east of Bressay Lighthouse, to about 200 feet from the sea, where he shot a Rabbit, and was in the act of picking it up when he saw the Wild Cat in pursuit of a Rabbit; he fired at it, but did not kill it, as it was too far away for No. 6 shot, which he was using, to take effect; it immediately bounded up the rocks, and sprang at him; he had the left barrel ready, and shot it while in the act of springing on him: it however alighted on his breast, and tore his wrist with its claws. It weighed 15 lbs., and measured 38 inches from nose to tip of tail; its chest measured $17\frac{1}{2}$ inches.—THOMAS MARSHALL (The Store, Stanley, N.B.).

BIRDS.

Occurrence on the Welsh Coast of *Æstrelata torquata*, Macg.—In the month of December a rare Petrel from the South Pacific was shot off the coast, in Cardigan Bay, between Aberystwith and Aberaeron, and was taken by the fisherman who shot it to the clergyman of the parish. Seeing that it was an uncommon bird, and being unable to name it, he suggested that it should be offered to the local taxidermist for preservation. The latter accordingly mounted it, and it has recently been purchased from him by Mr. J. W. Willis Bund, who brought it to me for identification. Through the kind assistance of Mr. Osbert Salvin, who has made a special study of the Petrels, it has been determined to be, without doubt, a specimen of *Æstrelata torquata*, whose true home is in the South Pacific Ocean. It was first described and named in 'The Zoologist' for 1860 (p. 7133), by John Macgillivray, who obtained it, in 1859, at Aneitum, one of the New Hebrides group of islands. Other specimens have since been procured in Fiji, as noted by Mr. Salvin in 'The Ibis' for 1888 (pp. 359, 360). The bird now before me is rather dark on the under-side; but this appears to be a variable character, as specimens in the British Museum vary from pure white on the under surface to nearly the colour of the present example. How it contrived to wander so far from its natural haunts, and reach the Welsh coast, is quite inexplicable, unless we are to assume that it was influenced by the Gulf Stream, which is so often alleged to bring us waifs and strays whose appearance on our coast cannot otherwise be accounted

for! Petrels seldom live more than a few days if captured alive, and it is therefore unreasonable to suppose that this bird could have been brought into British waters by human agency, and then contrived to make its escape. On Mr. Willis Bund's behalf I had the pleasure of exhibiting it at a meeting of the Linnean Society on November 6th, when, needless to say, it caused considerable wonderment amongst the ornithologists who were present. A description of the species will be found in 'The Zoologist,' as above mentioned, and some idea of its appearance, though not of its coloration, will be afforded by a glance at the coloured plate of its congener, *Estrelata hœsitata*, which is given in the third volume of Stevenson's 'Birds of Norfolk,' edited and recently published by Mr. Thomas Southwell,—a volume which I do not doubt will be hailed by the readers of this journal with considerable satisfaction. Suffice it to say that the bird is about the size of *Larus minutus*, of a smoke-grey colour above and below, with a white face and throat, and an irregular white collar which suggested to its original describer the specific name *torquata*.—J. E. HARTING.

The Ornithology of Heligoland.—It is the mark of most Englishmen to desire to become tolerably acquainted with the animal life, to use a convenient but inaccurate phrase, of the countries which they may chance to visit. They may not care for the scientific classification of the lower animals, but they are undeniably fond of observing their habits. Now, in one department of Natural History, the little island we have at this moment in view presents a record which, in all probability, can nowhere else be approached within measurable distance. This is the Migration of Birds. Herr Gätke, the Government Secretary, has a collection of specimens, all killed upon the island, which is nothing short of astounding when considered in connection with the extremely limited area at his command. According to Mr. Henry Seebohm, an excellent judge, and himself the author of an admirable 'History of British Birds,' "one of the most valuable contributions to our knowledge of Ornithology that has ever been published is a digest of Gätke's observations for the year 1885." Other places, such as Malta and Gibraltar, are well situated for observing what are technically called the "fly-lines" of various birds. But no one as yet appears to have had the leisure or the inclination to carry out a series of systematic records of them, which should serve as data upon which all ornithologists might confidently rely. Perhaps neither Malta nor Gibraltar is climatically adapted for a lengthened course of observation at all hours and seasons, whereas Heligoland is, beyond all question, delightfully compact, never too hot, and rarely too cold, for manœuvres *sub dio*. It is impossible to tire oneself in surveying an area which barely touches two hundred acres, and yet one has to keep on the *qui vive* not only with a view to *genera* and *species*, but also to avoid taking the necessary three steps which would involve walking overboard. Despite these unusual facilities, however, it is

quite certain that Herr Gätke has worked with equal enthusiasm and patience to bring about the magnificent result with which he is justly credited; for, thanks to his labours, we read that "Heligoland is the only part of the world of which the Ornithology has been properly worked." What wonder, with so glorious a model before him, that "every boy on the island is a born and bred ornithologist"? There are in all about five hundred different birds which are known to either breed or winter in Europe. Of these rather more than two hundred (222, to be exact) are found in Great Britain and in Ireland during winter or summer, that is, over an area of about 122,000 square miles; whereas considerably more than three hundred, at one season or another, have been identified by the indefatigable Gätke in his tiny but most prolific domain, measuring, all told, four-fifths of a square mile. Truly a wonderful instance of the superiority of quality to quantity! Mr. Seebohm quotes freely from the Secretary's diary, which in good sooth contains some staggering entries. The language, in respect of numerals, is scarcely equal to the demands he would fain make upon it. Thus, on one night he notices "thousands of Great Tits"; on another, "tens of thousands of Sky Larks"; on a third, "immense flights of the Common Buzzard." A little farther on we find him recording the passage of "millions of Red-throated Divers," "countless numbers of Hedge-sparrows," "thousands of Jays," "myriads of Goldcrests," *und so weiter*. One of the most curious bits of reading extant in Natural History is Mr. Seebohm's own account of a "migration night" in Heligoland, when every native is on the watch with stick and lanthorn. The uninitiated cannot understand why a great arrival of feathered guests should be looked for on one night more than another; the native is endowed with a special sense, which enables him to foretell, almost unfailingly, the approaching migratory wave. The variety of birds is no less extraordinary than their countless multitude. "Perhaps the first bird you flush," says the historian, "is a Sky Lark; the report of your gun may start a Golden Plover or a Jack Snipe; then, may be, you see some small birds picking insects off the potato-leaves, and you presently secure a Little Bunting, an Aquatic Warbler, and a Shore Lark. Your next shot may be a Corn Crake, followed by a Ring Ouzel, a Richard's Pipit, or a Teal. Then, perhaps, a Great Spotted Woodpecker or a Short-eared Owl attracts your attention." There is assuredly no monotony here. And whence come they, whither go they, one and all? Not even the joint intelligence of Gätke-cum-Seebohm can adequately unfold this great mystery to us. That they do come, however, and do go, in numbers almost inconceivable, is a fact which has been ascertained beyond all suspicion of doubt. A strange experience is that of the lighthouse-keeper, whose beacon is sometimes the centre of a mass of bird-life, each unit madly struggling to reach the fatal light, only to fall, a bruised and lifeless little corpse, in the gallery which runs round

the building. He may "welcome the coming, speed the parting guest," but not rarely has he to remove a heap of slain, whose migration is henceforward for ever at an end, or is directed elsewhere than along the "fly-line" which touches Heligoland. In a little island where many things are strange there is surely nothing more inscrutable than this periodical *Wanderung*. That without a moment's warning the air above us should be filled with myriads of birds, apparently discharged like arrows from a bow, "perpendicularly down from the invisible heights," is a riddle which none as yet may rede. While so wealthy in Avifauna, these few acres are, naturally enough, almost wholly deficient in quadrupeds and reptiles. But, *en revanche*, the surrounding waters are alive with fish of many kinds, and Seals and Porpoises are often visible.—*From the 'National Review,' August, 1890.*

[It is with great satisfaction we are able to add that Herr Gätke's famous collection of birds, formed by him during many years' residence on Heligoland, has been purchased by Mr. Henry Seebohm for presentation to the British Museum; and we learn also that Herr Gätke's journal of observations on the Ornithology of this island is in a fair way towards publication.—ED.]

The Baltimore Oriole in Shetland.—Mr. H. Dykes Lloyd has recently forwarded for identification a specimen of the Baltimore Oriole, *Icterus Baltimore* (Linn.), which was caught alive, in an exhausted condition, on the 26th of September last, at Balta Sound, Shetland, by Mr. Andrew Anderson, a merchant of that place. Mr. Lloyd, for whom this bird has been preserved, writes word that another of the same species was seen on the same day at Haroldswick, but was not obtained. This species is so frequently imported to England from New York as a cage bird that we may not unreasonably assume that the pair which found their way to Shetland may have made their escape on being landed at Liverpool. It may not be generally known, perhaps, that the specific name "Baltimore" was bestowed by Linnæus not on account of its supposed abundance in the neighbourhood of Baltimore, or because it was first received from that part of the world, but out of compliment to Lord Baltimore, whose livery was black and yellow, like the plumage of the male Oriole.—J. E. HARTING.

Spotted Crake in Great Britain.—Will you allow me to say, with reference to my paper on this subject (pp. 401—417), that I have since its publication already received some valuable information (respecting Suffolk, Somerset, Devon, Wales, &c.), and that I should be glad of more? Any additional facts that I am able to collect, together with a few corrections, I propose to offer to 'The Zoologist' in the form of a supplementary paper. Conclusion ii. will doubtless have been noticed by readers.—O. V. APLIN (Bloxham, Oxon).

Crakes and Rails.—After reading Mr. Aplin's most interesting paper on the Spotted Crake in 'The Zoologist' for November, I wondered what
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the necessity was that compelled it to emigrate southwards in winter, whilst the Water Rail can manage to exist with us throughout the year. On consulting the most recent ornithological works in my possession (*e.g.*, Yarrell, 4th ed., Seebohm, and Backhouse), I found that the Land Rail has the most northern geographical range, exceeding that of the Spotted Rail by about 2° , and that of the Water Rail by about 5° . This would lead one to suppose that the Land Rail was the more hardy and the Water Rail the more delicate bird of the trio. But this order seems to be reversed with us. In the winter Water Rails are common residents, Spotted Rails seldom found, and Land Rails occurring less frequently still. This fact would go to prove that not want of warmth, but want of food is the prime cause of migration. The Land Rail being less strictly insectivorous—or, perhaps, I should say more graminivorous—than the Water Rail or Spotted Rail, its food supply is more readily affected by low temperature than theirs would be. And although the Water Rail and Spotted Rail frequent the same localities, the greater length of beak in the former would enable it to procure food which the latter could not reach. Therefore *Rallus aquaticus* remains with us after *Porzana maruetta* has departed, because its food (consisting of aquatic insects and their larvæ, &c.) is not so subject to the effects of frost or flood. According to the latest published account of the Birds of Norfolk (Mr. Southwell's list in 'White's Norfolk' for 1890), the Land Rail is catalogued as a summer migrant, breeding here. The Spotted Rail is described as a summer migrant, occasionally breeding here, and the Water Rail as a resident receiving migratory additions in autumn and winter. In the Broad district, from which I am writing, the Spotted Rail is more common than the Land Rail, and more frequently breeds here. A clutch of young Spotted Rails, hatched in this parish last year, were unable to fly on August 29th. I amused myself for nearly an hour trying to catch one of them, but, even with the aid of my old Retriever (who, like many dogs, is very keen on the scent of a Rail), I was not able to secure a single individual, although once or twice I had one almost in my hands; but plunging about knee-deep in water, with an uncertain foot-hold and amid rank vegetation, I had set myself no easy task, and, as the day was hot, I was glad that I had divested myself of my coat before I commenced operations. Mr. Seebohm and other authors mention the unsociability of Crakes and Rails; let me give you three instances of exceptions to prove this rule (others may be found in 'Booth's Rough Notes'). During the hard weather of the winter of 1878—79 I shot twenty-three Water Rails in less than three weeks, from about half a mile of ditch, and then left several. One day during that time I saw three cross a road (from the ditch on one side to that on the other) together, or rather one after the other in quick succession. In three days of September, 1885, my brother and I flushed twelve and killed ten Land Rails, from two adjacent

fields, in the parish of Little Waltham, Essex. In one of the fields, which was standing barley, I killed at a double shot a *Crex pratensis*. On October 22nd, 1888, just as I was finishing a day's Snipe-shooting with a friend at Hickling, in this county, I saw him knock down a Spotted Rail, and, on going to help him find it, my dog caught another and flushed a third, which I shot: these three (one adult and two immature males) all met their death within twenty yards of each other. Coots are of course gregarious, and Moorhens—the connecting-link between Coots and Rails—are far more sociable than many people imagine. I have frequently seen twenty or thirty together on one Pheasants' "feed," and on February 25th, 1880, I counted over forty feeding on a grass meadow adjoining the Rookery pond at Wooton, Surrey. On December 28th, 1880, my brother and I started twelve, and shot eight out of one holly bush in which they had gone to perch. The latest and earliest dates I have for the occurrence of the Spotted Rail are as follows:—Feb. 24th, 1882, Potter Heigham; Nov. 5th, 9th, and 19th, West Somerton and Brunstead. There are several reasons why more Spotted Rails are killed in October than in any other month. In the first place, Snipe-shooting is more general, and the Jacks, *S. gallinula* having arrived, the ground is more thoroughly worked by dogs. Secondly, by October, vegetation begins to die off, frost and rain help to level it down, and waters generally begin to rise; concealment, therefore, is not so easy, and the limits thereof become more circumscribed as the season progresses. Thirdly, as the time of autumnal migration approaches, the individual broods probably re-assemble, if after hatching they do ever stray far apart, and perhaps—being near the coast—their numbers are reinforced by birds that have summered farther north. On Oct. 17th ult. my brother and I were shooting some rough marshes in the neighbouring parish of East Ruston, when a bird rose of its own accord, at some distance from us, which I took to be a Woodcock: it flew high and very strongly, and, after a flight of some 300 yards, eventually dropped in another rough and still wetter marsh. My brother being nearer to it—we were walking wide apart—said directly that it was a Land Rail, a statement which I called in question, never having seen a Rail fly like it before, and was consequently rather ashamed of myself for thus not knowing "a hawk from a barnser," when, with Nep's help, we brought a veritable *Crex pratensis* to bag. But others have been thus deceived before me, as I read in 'Yarrell'—"Land Rails have also been shot in mistake for Woodcocks in winter, especially on the promontories of the West Coast of Ireland." From birds I have shot I have noticed that Land Rails are as fond of feeding on "Daddy Longlegs" (the perfect insect of *Tipula*) as Pheasants are on oak spangles, the excrescences on the under-side of oak leaves caused by some gall-insect; but whether they are the work of *C. quercifolii* I am not sure. As to the cause or causes of migration, if birds

have premonitions of sharp weather which will cause a lack of food, how is it that many winter migrants to this country do not move on further south or west previously to severe weather here? It would seem that more northern forms are not necessarily more hardy, since Redwings and Fieldfares succumb to protracted frost before Blackbirds and Thrushes do, although at such times all four seem to frequent the same spots and to seek the same subsistence.—MAURICE C. H. BIRD (Brunstead Rectory, Stalham, Norwich).

The Sea-Lochs of Inverness-shire.—There are few places on the West Coast of Scotland which in their attractions for the naturalist surpass the wild Sea-Lochs of Inverness-shire. The rugged beauty of their mountain sides has its own peculiar fascination, where Falcons seek an eyrie and the Buzzard a home. The wail of the Curlew echoes up and down the silent water, and on every rock of vantage sits a Heron. The Red-breasted Merganser, *Mergus serrator*, may be seen there to advantage in August, with its brood of ten or twelve young ones already half as big as their parent, whom they follow in a compact little flock, taking wing when she does, and splashing with much unnecessary bustle with her along the surface of the water. With a boat it is easy for an expert rower to hem them in at the head of the Loch, as they imitate their mother in every movement, and she apparently never thinks of escaping from a boat by diving. At another time, when they are not watched, or at least not aware that they are within the range of our binoculars, half the party will perhaps be beneath the surface at one time; and the little white-bellied Sea Trout have a bad time of it, and doubtless the Brown Trout as well, when these rapacious fishers get into a "broon." Mergansers will also eat long fronds of sea-weed (as we proved by dissection), in which there cannot be much nourishment one would think. The keepers find their nests on the rocky islands, placed there for security. One which we landed to see was at some height, ensconced beneath the heather; eight young ones had left it, and one egg remained, which clearly told its own species, for the duckling inside had a distinctly visible saw-like bill. Eight of course was not a full complement to be hatched off, but duckling Mergansers have Gulls for enemies; and in another case the keeper saw a Merganser followed by a single young bird, the only one left to it, and that, strange to say, on August 14th was only about one-fourth grown. When three-quarters grown the irides of a young Merganser are yellowish, with an inner circle of hazel, and the legs may be best described as brownish yellow, with darker webs. Foolish Guillemots, *Uria troile*, are not of much interest to a Southerner; but young Black Guillemots, *Uria grylle*, bred, it may be, on Skye, come up Loch Hourn in August, and, from indifference or ignorance of the cruelties practised by their mortal enemy man, or from inability to fly, are not hard to catch alive. The muscles and bones of the

wing in this species appear to be of great strength, enabling them to keep under water in all weathers when fishing. Having made a capture of one, we noticed the remarkable way in which, when in the water, it turned over on its side: our captive, when placed on the level ground, forthwith proceeded to run like a chicken, and was not happy until placed in a tank which contained a few small Trout; but it did not seem able to find them, albeit it swam about with its head beneath the surface as if looking for something, and I marked the ready way in which it could dive in only a few inches of water. Many birds attain their full size before the primary quills are completely grown, and this was the case with the Guillemot in question, which we ultimately consigned to the Loch from which we obtained it. The Red-throated Diver, *Colymbus septentrionalis*, I did not meet with; but a beautiful pair of Black-throats, *C. arcticus*, were swimming side by side on Loch Quoich on August 15th. So far as could be judged at a distance they had lost little of their superb summer plumage. I am surprised at Mr. Thomasson seeing a pair of this species with three young ones, as stated (p. 346), for two is undoubtedly the usual number, and his discovery that they occasionally have three is very interesting.—J. H. GURNEY (Keswick Hall, Norwich).

Habits of the Grey Wagtail.—I have read with much pleasure Mr. O. V. Aplin's interesting notes on the Grey Wagtail (pp. 371—376). In almost every part of Ireland which I have visited I have found this a very common bird, in many places more numerous than the Pied Wagtail. About Shillelagh I know of some six or eight nesting places of the Grey Wagtail, within a couple of miles, most of which are frequented every year, the nest being generally built for a series of years in the same spot. A mill, a bridge, an old farmyard near a stream, are favourite haunts during the breeding-season, for the bird is by no means shy or retiring. To my observation, in at least five cases out of six, this bird builds its nest directly over the water of a stream, while the neighbourhood of a waterfall seems to afford a special attraction. There is a bridge where for many years a pair of Grey Wagtails have nested in the same spot, a recess behind overhanging tufts of grass on the sloping top of a buttress, about six feet above the water, the nest being completely hidden from view. Whenever I have taken this nest the birds have always built again within a couple of weeks, usually in the same place, but occasionally on a different part of the bridge. This year the nest contained five eggs on April 1st; but the eggs are more frequently laid about a fortnight later, and there is a second brood about the beginning of June, a new nest being constructed not far from the site of the old one. A very favourite nesting-place is close to the outfall of a mill, often within reach of the spray of the falling water; and in such a place I have known of a nest every spring for the last ten years, built in a crevice of the masonry, and sheltered by a hanging tuft of grass.

This nest frequently contained six eggs. Another nest was placed among thick ivy, on the face of a bridge, sufficiently near the top to be easily reached by a person leaning over the parapet. In the Glen of the Downs, near Greystones, one of the most charming spots in Ireland, I have seen a nest in a crevice among the roots of a fallen tree, close to a little pond, and within reach of the spray of a small waterfall. The woods and thickets all round are melodious, during the nesting-season, with the songs of numerous Blackcaps; and here, every year, by the side of the secluded pool, a pair of Grey Wagtails rear their young. Nowhere, however, have I seen the Grey Wagtail in greater abundance than along the Dodder, close to Dublin. Even where the river passes through the suburbs of the city many pairs nest annually, and a couple of miles farther up it is one of the commonest birds. In the early summer the young, with their parents, may be seen perching on the stones and reaches of shingle in the bed of the river, which at that season contains but little water, most of it being taken away by mill-streams. They are ever in restless motion, flying from stone to stone, and are exceedingly noisy. The song of the male is a loud but short trill, often very like the cry of the Common Sandpiper. These family parties break up soon after midsummer, for this species does not appear to flock, and all through the autumn and winter it occurs scattered over the country singly or in pairs. At this season it wanders a great deal, and is fond of frequenting moist places in fields where cattle are kept, particularly during frost. During the nesting-time the stream-side and waterfall are essential, but at other seasons it may be found in a great variety of places. It shows a predilection for the neighbourhood of houses, and is constantly to be observed even in the centre of Dublin. It appears to haunt principally the roofs of the houses, and so is not often seen; but in the most frequented streets, and especially along the quays, its note may constantly be heard above the noise of the traffic. In the squares and open places, such as St. Stephen's Green, it may often be noticed; and a curious and interesting sight it is to see one of these elegant birds, in the delicate grey and creamy yellow of its winter plumage, perch for a few moments on one of the dusky hawthorn trees in the squares of Trinity College. Even as I write the loud call-note, "zit-it," frequently reaches my ear. The Pied Wagtail, on the other hand, though fond of the neighbourhood of country towns, and a sufficiently common species in the immediate vicinity of Dublin, is rarely to be seen in the interior of the city.—ALLAN ELLISON (Trinity College, Dublin).

Little Bustard in Norfolk.—The following letter, from the late Mr. J. H. Gurney, refers to the earliest known instance of the occurrence of the Little Bustard in the county of Norfolk. It was not known to Mr. Stevenson when he wrote the article on this species in the second volume of his 'Birds of Norfolk,' but will be found mentioned in some "Extracts

from the Note-book of the late Miss Anna Gurney, of Northrepps," published in the 'Transactions of the Norfolk and Norwich Naturalists' Society" (vol. ii. p. 19). The coloured drawing referred to represents an example "in winter, or perhaps female, plumage." The letter is dated "Northrepps Hall, 10th April, 1890," and possesses a melancholy interest from the fact of its having been written only the day before Mr. Gurney was seized by the attack which ended fatally on the 20th of the same month:—"Dear Mr. Southwell,—I have just been referring to Miss Gurney's drawing of the Pomatorhine Skua, and on looking through the portfolio I observe one (also by her) of a Little Bustard, shot at Mundesley in November, 1820. I do not think that Mr. Stevenson has mentioned this specimen, and possibly you may like to do so in your Appendix.—Yours very truly, J. H. GURNEY."—T. SOUTHWELL (Norwich).

Pomatorhine Skua in Co. Mayo.—On the 24th of October an adult specimen of the Pomatorhine Skua (the black variety) was shot on Lough Conn, by Mr. John Garvey, of Ballina. It was the only bird of the kind seen that day on the lake. The specimen is very black all over, with the exception of an odd white feather appearing on the under tail-coverts, and the long tail-feathers are fully grown to their normal length, showing that the bird is adult.—ROBERT WARREN (Moyview, Ballina).

King Duck at Hunstanton.—On November 3rd, 1890, a young female King Duck, *Somateria spectabilis*, was shot off Hunstanton St. Edmunds, by Mr. S. Brown (for whose collection it is being preserved), and sent the next day to me, for determination, by Dr. Whitty. This bird measured in total length $21\frac{1}{4}$ inches; the wing from the flexure $10\frac{1}{2}$ inches; tibia $1\frac{1}{4}$ inch; middle toe $2\frac{1}{4}$ inches, and the nail of the same toe about $\frac{3}{8}$ ths of an inch. The plumage was very dark, and I believe the bird was mistaken, when alive, for a Common Scoter; the beak, bluish lead-colour at the tip, gradually shading off to a dull pinkish leaden hue at the basal portion; legs and toes yellow-umber, the interdigital membranes dark brown in centre; iris dark brown. From the condition of the feathers I have no doubt it is a bird of the year. It is singular that this bird should have occurred so near the spot at which a previous specimen, recorded by me in 'The Zoologist' for 1889 (p. 383), was killed.—T. SOUTHWELL (Norwich).

Black Redstart in Devonshire.—As I was looking out of the window, on November 2nd, a young male Black Redstart pitched on the grass lawn within a few yards of me, and I had a good look at it. It was almost immediately pounced on by a Sparrow, and got a severe buffeting, which seemed to scare it a good deal, and it soon flew away, and I have not seen it again. It had no white alar patch, but the breast was rather dark. I know of only two other examples which have occurred near this town. Indeed, few specimens have been obtained east of the Exe, though it is so

often seen at Teignmouth and all along the S.W. coast from Torquay to Plymouth.—W. S. M. D'URBAN (Moorlands, Exmouth).

Gadwall in Leicestershire.—I see that, in 'The Zoologist' for 1886, Mr. Montagu Browne, in his 'List of Leicestershire Vertebrates,' omits the Gadwall, *Anas strepera*, by which I gather that it was unknown to him as a denizen of this county. I am happy to be able to add it to his list, for a fine specimen of that duck was killed last week at Bitteswell Hall, near Lutterworth.—H. T. FRERE (Burston Rectory, Diss).

Change of Plumage in the Jackdaw.—When does the Jackdaw acquire a black head? Every winter I meet with examples in which the hood is so dark as to be scarcely distinguishable from the rest of the plumage unless the bird is closely examined. All very young Jackdaws which I have seen had the grey hood well marked, though not so clearly defined as in old birds, the rest of the body plumage being more or less grey. I cannot recollect ever having met with dark-headed birds in North Wales, though the Jackdaw is a very abundant species there.—G. H. CATON HAIGH (Great Grimsby).

Pine Grosbeak in Nottinghamshire.—A beautiful specimen of this rare British bird was shot on October 30th by Mr. Dixon, near Watnall, in this county. It is a male bird, and in perfect plumage. When first seen it was drinking beside a small pond, and on the approach of Mr. Dixon (who was out shooting) it flew up into a tree, where he shot it. It is now set up, and a more perfect specimen I never saw. This is a new species for Notts, and, so far as I can make out, the sixth authenticated British example which has been obtained.—J. WHITAKER (Rainworth, Notts).

Number of Eggs laid by the Shag.—With reference to the number of eggs laid by the Shag and Cormorant, my idea was that locality had something to do with this, as it apparently has in the case of the Lark and Curlew, and, according to Mr. Young's experience, the Tawny Owl also, though possibly, as he suggests, the food supply is an important factor in the case. In reply to Mr. Ussher, as regards date, I have seen a nest of young Cormorants (three), taken from the Ramna Stacks on May 31st. They were apparently from eight to ten days old, which would fix the laying about the middle of April. On this date there were nests of the Shag and Cormorant—only a few of the latter—containing eggs in all stages of incubation; and I have also found nests of the Shag, with young, nearly a week previous to this. Fresh eggs are often to be met with in the middle of June, but these are, I think, invariably those of a second laying. The Shag is so much the commoner bird than the Cormorant in Shetland, that I believe there are five hundred of the former to one of the latter.—HAROLD RAE BURN (Romford).

Hawfinches and Green Peas.—The Hawfinch seems to be steadily gaining ground in Cheshire, or, at any rate, in the northern part of the county, for which I can best speak; and I trust it may become firmly established in Wirral, where your correspondent, Mr. E. Comber, records it as nesting this year, in spite of the havoc it has caused among the green peas. I fear the fondness of the Hawfinch for this food will militate against its ever becoming a common species in this neighbourhood, as the market gardeners are sure to kill the robbers, whenever an opportunity occurred, should they become sufficiently plentiful to attract general attention. In the few instances in which the bird has come under my own notice, it has been connected, and to its disadvantage, with green peas. On May 21st, 1888, I found a nest in Higher Peorar Park, near Knutsford, which was built in a somewhat exposed situation, in a large wood composed principally of oaks and beeches, and was easily seen from a distance of fifty or sixty yards; it was placed on a lateral branch of a small birch, growing at the edge of an open space in the wood, about six feet from the trunk of the tree and fifteen feet from the ground. The sitting bird did not leave the nest until I struck the tree with a stick: the nest, a slight structure of twigs lined with roots, contained one fresh egg, and at the foot of the tree the broken shell of another egg was lying. The keeper informed me that the Hawfinches frequented the Hall garden every year for the sake of the young peas, and not unfrequently forfeited their lives in consequence. On July 30th, 1888, an adult female was sent to me from Wythenshawe, Northenden, where it had been trapped in the pea-rows on the previous day; its stomach contained some broken pieces of maize, and there were a few green peas in its crop. Another bird had been trapped a few days before, but I was unable to obtain it. Some Hawfinches were noticed at Wythenshawe in 1884. In the summer of 1888 a man named Joseph Bell showed me an adult bird and a young one, which he shot "five or six years ago, this green pea time," in a market garden at Didsbury, just on the Lancashire side of the county boundary. The old bird was feeding the young one with peas when both were shot. A second young bird was picked up in a garden close by, about the same time, where it was fighting with a Song Thrush. I heard the other day from a friend that he had trapped two birds in his pea-rows, at Hanwood, Salop, in the summer of 1889.—CHARLES OLDHAM (Ashton-on-Mersey).

Hawfinch in Lincolnshire.—Is not this bird more common now than it was a few years ago? I fear it will become rare again if it is shot down so mercilessly by gardeners. Within a mile of this place two gardeners shot no fewer than five, three of which they told me were old birds, and two young. They were shot early in August, during the close season; but how can one inform against one's neighbours' gardeners?—HENRY F. ALLISON (Beckingham, Newark).

Description of a Hybrid Pheasant.—A curiously-marked Pheasant which I secured in the Market Hall, at Birmingham, in October, 1889, presents at first sight the appearance of the isabelline variety at one time known as the Bohemian Pheasant, but an examination of the curious markings on all the feathers gives to the bird a most distinct appearance. Whatever the supposed hybrid Partridge I described last month (page 384) may prove to be [an immature Red-leg—Ed.], it appears to me that there is an admixture of blood of some kind in the Pheasant under notice. I will endeavour to describe the markings on all the feathers as clearly as possible. Commencing with the head, I may at once state that the bird had not completed its moult, and the greater portion of the head and neck are undeveloped pin-feathers, but those on the top of the head and back of the neck appear to be a faded French grey for the greater portion of their length, followed by a narrow line of brownish, a broader band of buff, and terminated with an edging of dark brown; lower down the neck, approaching the interscapulars, the feathers have a brownish buff centre, surrounded with a band of grey, edged with dark, and terminated with pale washed brown; interscapulars French grey, broadly tipped with brownish buff, a narrow wave of dark brown, and fringed with washy drab; rib dark brown, which shows very distinctly running through the French grey: scapulars, centre French grey, followed by clouded brownish buff, and bordered round with pale fawn, rib dark brown; rump wedge-shaped, centre of grey, terminating with wavy fawn-brown and a darker tint; tail-coverts somewhat similar, but clouded with grey, buff, and a darker tint; tail buffish drab, with a warm tinge of brown, barred and clouded with a darker tint. Going back now to the wings, the primaries and secondaries are a very pale greyish buff, clouded with darker; tertiaries delicately marbled with grey, buff, and brown; lesser wing-coverts greyish brown, margined with pale buff; middle wing-coverts pale buff, with two bars of greyish margined with darker; greater wing-coverts pale buff, with five bars of pale grey, and marblings of brown and buff. Breast warm brownish buff, grey centre, shadowed with brown, and terminating with brown pepperings; flanks buff, with wavy bars of greyish, and darker shadowings; abdomen buff. Irides stone-drab. Bill and legs horn-brown. I was unable to positively determine the sex, as the shot appeared to have lodged in that part of the bird, and destroyed all traces; but I believe it to be a female. The body was slender and purely Pheasant-like, without any of the thicker build of domestic poultry, with which the bird, I thought, might possibly have been crossed.—F. COBURN (7, Holloway Head, Birmingham).

Abnormal nesting of the Sand Martin and Swift.—During the excursion of the Dublin Naturalists' Field Club to Poulaphuca Waterfall, on May 24th, Mr. E. Williams and I found a large colony of Sand Martins

nesting in the bank of the Liffey, about a mile above the Falls. We dug out three or four of the burrows, and found most of them to contain eggs. One of these nests consisted merely of a large handful of the dry, brown scales from the expanding buds of the beech, without the admixture of any other material. A quantity of these had been dropped about the entrance of the hole, and strewed the entire bottom of the burrow, which was about two feet deep. Why was this bird so eccentric in its choice of building materials, while its neighbours all round had their nests constructed, as usual, of straws and large white feathers? I have examined very many Sand Martins' nests, but never came across a similar instance. In the lofty bridge which spans the glen over the waterfall we noticed numbers of Swifts nesting in company with Jackdaws and Starlings in crevices in the crown of the arch. In Kildavin Bridge, over the Slaney, near Newtownbarry, Co. Wexford, I have seen Swifts flying in and out of their nests, which were situated in holes under the arches, not more than six feet above the water. The House Martin sometimes nests in the arches of bridges.—ALLAN ELLISON (Trinity College, Dublin).

Supposed Occurrence of the Orphean Warbler in Devonshire.—On April 16th last there was a great rush of Warblers arriving all along the South Coast,—Willow Warblers, Blackcaps (males), and Wheatears,—and whilst watching a Blackcap feeding on ivy berries in my garden, at 10, Claremont Terrace, Exmouth, where I was then residing, another bird, with a jet-black head, but *pure white throat* and under parts, and with a slender beak, longer and larger in proportion than in the Blackcap, settled on a twig quite close to it, and I was able to compare the two birds. The sun was shining very brightly at the time, and I did not notice the white tail-feathers. It was certainly smaller than the Blackcap, but nevertheless I have little doubt that it was a male Orphean Warbler.—W. S. M. D'URBAN (Moorlands, Exmouth).

MOLLUSCA.

Observations on *Vitrina pellucida*.—We have in this country a single representative of a large and well-distributed genus of land molluscs known as *Vitrina* (Draparnaud), viz., *V. pellucida* (Müller), which forms the subject of this communication. Towards the end of summer or the beginning of autumn little clusters of eggs may be found secreted under decaying leaves, logs of wood, &c. These hatch out in about twenty-eight or thirty days, the animal attaining maturity in about four months. The shell is very thin and fragile, transparent, and of a delicate green colour, faintly striate in the line of growth and spirally; of 3—4 whorls; the body whorl being very large, the spire short, apex obtuse, and no umbilicus. The animal is of a light pinkish grey, slightly transparent, mantle finely spotted with black, tentacles ashy grey, foot yellowish. This interesting mollusc is

generally found beneath dead leaves, moss, fallen trees, stones, &c. It is exceedingly hardy, and has been observed by Nilsson crawling upon the snow. I have often collected it during a hard frost, and it is much commoner in winter than in summer. As several conchologists hold contrary views, I give below a list of places in which I have observed this species, both in summer and winter:—

			Summer.	Winter.
Adel, near Leeds	...	...	20	54
Do.	...	...	10	104
Do.	...	...	12	83
Meanwood, near Leeds	...	...	19	31
Broughton (Oxford)	...	...	5	16
Wroxton	„	...	11	19
Little Bourton	„	...	23	57

It is very active and constantly on the move, and were it not for some special contrivance with which Nature has endowed this mollusc, it would soon become extinct. To crawl abroad in mid-winter, when all food for birds is so scarce, would certainly be very risky were it not for these special means of defence, if I may so term them. Gray observed that *Vitrina pellucida* possesses the power of jumping an inch or two from the ground, an observation which I think has not until now been confirmed. I have observed that when crawling on the edge of some stone or leafless twig, it will sometimes suddenly give its tail a jerk, sufficient to throw shell and owner to the ground, where it is soon lost to sight amongst surrounding vegetation; at other times it will roll away a few inches, and repeat the jumping motion. Another means of protection which it possesses is that of attaching to itself bits of leaves or soil, which entirely cover the shell and animal, thus causing it to resemble the natural surroundings. Müller long ago described how “when placed under water (where it is capable of remaining for a considerable time without injury) it drew in its tentacles, at the same time making itself rigid, in order that it might appear to be dead. Having remained for a few hours in this position it crawled slowly out of the water, and, cautiously protruding its tentacles to make sure that the way was clear, it hastened to a safe hiding-place and retreated within its shell.” The animal is capable of being entirely contained within its shell. I mention this as in a recent addition to conchological literature it is stated that this is not so. It is both herbivorous and carnivorous, its food consisting mainly of decaying vegetable matter; but it is not averse, should opportunity present itself, to make a meal of its own kind, or other molluscs or worms. I have tried a number of times to get the species to suspend itself by its slime, but have not been successful; its slime appears to be not sufficiently tenacious. Although at times it travels far away from its original patch of leaves, or log of wood, it generally returns to the spot it has left.—W. E. COLLINGE (41, Springfield Place, Leeds).

SCIENTIFIC SOCIETIES:

LINNEAN SOCIETY OF LONDON.

November 6, 1890.—Prof. STEWART, President, in the chair.

Mr. Alfred Taylor was elected a Fellow of the Society.

Mr. E. M. Holmes exhibited and made remarks on some little-known sea-weeds, including *Monostroma Blyttii* and *Capsosiphon aureolus*, from Taymouth, and *Oscillaria Corallinae* and *Schizothrix lardacea* from the Devonshire coast.

Mr. George Murray exhibited and described the peculiarities of some galls of *Rhodymenia*, caused by a crustacean.

Prof. G. B. Howes exhibited a specimen of *Lima hians* with a bissus "nest," which it had spun in twenty-one days in a vessel of sea-water in which it had been placed. Although constantly watched by day and night the act of spinning had not been observed.

On behalf of Mr. J. W. Willis Bund, Mr. Harting exhibited and made some remarks upon a South Pacific Petrel, *Æstrelata torquata*, Macg., which had been shot in Cardigan Bay in December last.

On behalf of Prof. Martin Duncan, who was unable to be present, Mr. P. W. Sladen exhibited two microscopic preparations of the ambulacral ampullæ of Echini, showing that each ampulla is supplied by one offshoot from the main ambulacral water-vessel.

Mr. Harting exhibited a specimen of the Baltimore Oriole, *Icterus Baltimore*, obtained in September last at Balta Sound, Shetland.

A paper was then read by Rev. Prof. Henslow entitled "A Contribution to the study of the relative effects of different parts of the solar spectrum on the assimilation of plants." The paper was illustrated by diagrams, and a discussion followed in which the President, Prof. H. Marshall Ward, Dr. D. H. Scott, and others took part.

ZOOLOGICAL SOCIETY OF LONDON.

Nov. 4, 1890.—Prof. W. H. FLOWER, C.B., LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions made to the Society's Menagerie between the months of June and October, 1890, and called special attention to a young bull of the so-called Wild Cattle of Chartley Park, Staffordshire, presented by Earl Ferrers; a Water-Buck, *Cobus ellipsiprymnus*, from the Somali Coast, presented by

Mr. George S. Mackenzie; a Horned Screamer, *Palamedea cornuta*, obtained by purchase: and a young doe of Speke's Antelope, *Tragelaphus spekii*, presented by Mr. James A. Nicolls.

The Secretary exhibited, on behalf of Dr. A. B. Meyer, a coloured photograph of a variety of the Rose-coloured Pastor, *Pastor roseus*, with a red head, obtained near Sophia; and read a note from Dr. Meyer on this subject.

Mr. G. A. Boulenger made some remarks on an early reference to the Syrian Newt, *Molge vittata*, in Shaw's 'Travels,' which had been erroneously recorded as British.

Mr. J. J. Lister gave an account of his recent visit to the Phoenix Islands, Central Pacific, and exhibited specimens of the birds and eggs obtained there, chiefly Petrels and Frigate-birds, with four specimens of Peale's Curlew, *Numenius femoralis*.

Mr. Smith Woodward exhibited and made remarks upon the frontal bone with horn-cores of an adult male Saiga Antelope, *Saiga tatarica*, from the pleistocene deposits of the Thames Valley. The specimen had been obtained by Dr. J. R. Leeson from recent excavations in Orleans Road, Twickenham, and was the first trace of this Antelope discovered in Britain.

Mr. W. T. Blanford read a paper on the Gaur, *Bos gaurus*, and its allies, with especial reference to the exhibition of the first living Gaur ever brought to Europe, in the Society's Gardens. He described the characters and geographical range of the three allied species of flat-horned Bovines—the Gaur or Sladang (Bison of Indian sportsmen), the Gayal or Mithan, *Bos frontalis*, and the Banteng, *Bos sondaicus*,—and discussed the question whether *B. frontalis* is ever found in the wild state.

A communication was read from Dr. A. B. Meyer, containing the description of a new species of Squirrel from the Philippine Islands, which he proposed to call *Sciurus cagsi*.

Mr. R. Lydekker read a paper on a Cervine jaw from pleistocene deposits in Algeria, which indicated the former existence in that country of a large deer allied to *Cervus cashmirianus*. For this form Mr. Lydekker proposed the name *Cervus algericus*.

A communication was read from Dr. A. Günther on the skull of the East African Reed-buck. He described the skull of an Antelope obtained by Mr. H. C. N. Hunter in Masai Land, which he identified with *Cervicapra bohor* (Rüppell) from Abyssinia, and pointed out the differences from the skull of the South African species, for which the name *Cervicapra redunca* (Pallas) is generally employed.

Mr. P. Chalmers Mitchell described a graphic formula, designed for the purpose of representing geographical distribution. The regions

were indicated by lines, the subregions by symmetrically placed numbers. This formula could be drawn rapidly and printed without engraving.

Mr. W. L. Sclater read the description of a *Jerboa* from Central Asia, which he proposed to refer to a new genus and species of *Dipodina* under the name of *Eucoreutes naso*.—P. L. SCLATER, *Secretary*.

ENTOMOLOGICAL SOCIETY OF LONDON.

November 5, 1890.—The Right Hon. Lord WALSINGHAM, M.A., F.R.S., President, in the chair.

Mr. Francis H. Barclay, of Knott's Green, Leyton, Essex; Miss M. Kimber, of Cope Hall, Enborne, Berkshire; and Mr. John E. Robson, of Hartlepool, were elected Fellows; and Major-General Carden, Mr. J. E. Eastwood, and Mr. A. E. Hall were admitted into the Society.

Lord Walsingham announced the death of Mr. Atkinson, of the Indian Museum, Calcutta.

Mr. A. H. Jones exhibited a number of Lepidoptera collected in June last near Digne, Basses Alpes, including *Papilio Alexanor*; *Parnassius Apollo*, larger and paler than the Swiss form; *Anthocharis tagis* var. *Bellezina*; *Leucophasia Duponcheli*; *Thecla spini*; *Thecla ilicis* var. *cerri*; *Lycæna argiades* var. *corretas*; *L. argus* var. *argyronomon*; *L. bellargus* var. *ceronus*; *Melitæa deione*; and *Argynnis Euphrosyne*.

Mr. W. E. Nicholson also exhibited a collection of Lepidoptera, formed near Digne last June, which included very large specimens of *Papilio Machaon*; *P. Podalirius*; *Thais rumina* var. *medesicaste*, larger and redder than the Mediterranean specimens; *Apatura Ilia* var. *Clytie*; *Argynnis adippe* var. *cleodoxa*; *A. Daphne*; *Melanargia galatea* var. *leucomelas*; *Vanessa egea*, bred from pellitory; *Satyrus semele*, and many others.

Mr. C. O. Waterhouse exhibited the upper and lower membranes of a wing of a species of *Attacus*, which had been separated without removing the scales, and mounted on glass so as to show the internal surfaces.

Dr. D. Sharp exhibited a photograph he had received from Prof. Exner, of Vienna, showing the picture obtained at the back of the eye of *Lampyrus splendidula*. He stated that this picture is continuous and not reversed, and shows the outlines of lights and shades of objects at a distance as well as of those closer to the eye.

Mr. H. Goss exhibited a specimen of *Zygæna filipendulæ* var. *chrysanthemi*, which he had taken at Rhinefield, in the New Forest, on the 15th July last. Dr. P. B. Mason said this variety was known on the Continent of Europe, and was figured by Hübner in his 'Sammlung,' a copy of which work he exhibited. He added that he possessed a similar specimen of this variety taken by Mr. Nowers in Wyre Forest, Worcestershire.

Colonel Swinhoe stated that he possessed a similar variety of a species of *Syntomis*.

The Rev. Dr. Walker exhibited a number of Diptera, Hymenoptera, and Coleoptera recently collected in Iceland, also some drawings illustrating the various forms of *Crymodes exulis* occurring in Iceland which he had shown at the October meeting of the Society; he also exhibited seven varieties of *Melanippe thuleana*, nine of *Coremia munitata*, and a few of *Noctua conflua*, illustrating the varied forms of these species occurring in Iceland. Dr. Mason said that the only British specimens of *N. conflua* which he had seen resembling the Iceland form of the species were taken at Wolsingham, Durham.

Mons. A. Wailly exhibited and remarked on a number of Lepidoptera from Japan. The collection comprised about thirty species, eleven of which, it was stated, were not represented in the British Museum collections.

Mr. A. C. Horner exhibited a number of rare species of Coleoptera, including *Homalota crassicornis*, Gyll., *H. fimorum*, Bris., *H. humeralis*, Kr., and *Euryporus picipes*, Pk., collected at Church Stretton, Shropshire; and also *Amara nitida*, Sturm., *Oxyptoda amæna*, Fair., *Homalota testaceipes*, Heer, *Lithocharis apicalis*, Kr., and *Epuræa neglecta*, Heer, from the neighbourhood of Tonbridge.

Mr. Meyer-Darcis exhibited a specimen of *Termitobia physogastra*, Gangelb., a new genus and species of *Brachelytra* obtained in a White-ants' nest from the Congo. Dr. Sharp commented on the interesting nature of the exhibition.

Colonel Swinhoe exhibited a collection of moths from Southern India, which comprised about forty species, distributed amongst the following families:—*Syntomidæ*, *Lithosiidæ*, *Arctiidæ*, *Lasiocampidæ*, *Zerenidæ*, *Fidonidæ*, *Leucanidæ*, *Heliothidæ*, *Acontiidæ*, *Poaphilidæ*, &c. He also read a paper describing these species, entitled "New Species of Moths from Southern India."

The Rev. T. A. Marshall communicated a paper entitled "A Monograph of British Braconidæ. Part IV."

Lord Walsingham read a paper entitled "African Micro-Lepidoptera," containing descriptions of seventy-one new species, and of the following nine new genera, viz.:—*Autochthonus* (type *A. chalybiellus*, Wlsm.), *Scalidoma* (type *Tinea horridella*, Wkr.), *Barbaroscardia* (type *B. fasciata*, Wlsm.), *Odites* (type *O. natalensis*, Wlsm.), *Idiopteryx* (type *Cryptolechia obliquella*, Wlsm.), *Microthauma* (type *M. metallifera*, Wlsm.), *Licmocera* (type *L. lyonetiella*, Wlsm.), *Oxymacharis* (type *O. niveocervina*, Wlsm.), and *Micropostega* (type *M. aneofasciata*, Wlsm.). Several European and American genera were recorded as new to the African fauna, and the occurrence of one Australian and two Indian genera was also noted.—H. Goss, *Hon. Sec.*

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